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EXAMINER

FITZGERALD, JOHN P

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2856

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/589,307	Applicant(s) KAHL ET AL.	
	Examiner JOHN FITZGERALD	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 6-14, 17 and 32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 15, 16, 18-22, 26, 27, 29 and 33 is/are rejected.
- 7) ☒ Claim(s) 23-25, 28, 30 and 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 6-14, 17 and 32 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 16 October 2008. The Applicant should note claim 14 is also withdrawn in addition to the claims recited by the Applicant, since it refers to non-elected Figure 3a.
2. Applicant's election with traverse of Figure 1 in the reply filed on 16 October 2008 is acknowledged. The traversal is on the ground(s) that the species recited by the Examiner are all share the common feature of a membrane sub-dividing a chamber of the device into two sectional chambers, and thus are not patentably distinct. This is not found persuasive because clearly, the particular limitations recited in the non-elected species (instant claims 6-13, 17 and 32) most definitely require further searching and consideration by the Examiner, and clearly contain mutually exclusive characteristics/elements that are mutually exclusive, that if not found in a single Prior Art reference, the Examiner must consider other Prior Art in feasible combinations therewith. Clearly, the instant Figures of each of the species designated by the Examiner have very different geometries as well as mutually exclusive elements/Limitations associate therewith.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 5, 15, 19, 20, 26 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Namely, the claims recite either “preferably” or “in particular” in regards to specific limitations recited. The terms “preferably” and “in particular” render the claims indefinite, for it is unclear whether the limitations following the phrase are part of the claimed invention; or if the membrane is, in fact, both flexible and elastic, or simply just flexible. The same argument is made for claim 15 regarding the ranges recited. See MPEP § 2173.05(d).

5. Furthermore, the terms “preferably” and “in particular” are effectively reciting a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by “such as” and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481

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(Bd. App. 1949). In the present instance, claim 5 recites the broad recitation "flexible", and the claim also recites "elastic" which is the narrower statement of the range/limitation. The same argument is made for claims 14, 15, 19, 20, 26 and 29.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-5, 21, 22 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by US 2004/0053422 A1 to Chan et al. Chan et al. disclose all of the elements recited in a device for microfluid analyses (Figs. 1a-1e) having a chamber having at least two admissions (110, 114) integrated in a substrate/base (106); a semipermeable membrane (102) arranged in the chamber subdividing it into two sectional chambers with admission by the membrane (as recited in claim 1); the two sectional chambers partially arranged in parallel to one another, in the same plane in parallel to the base surface of the substrate (as recited in claims 2-4); wherein the membrane is flexible (note: all materials are inherently flexible, i.e. capable of being deformed) (as recited in claim 5); wherein substrate has a covering element/plate (116) (as recited in claims 21 and 22); and where the admissions end in the cover surface of the covering element/plate (as recited in claim 27).

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8. Claims 1-5, 16, 21 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by US 2004/0219072 A1 to Yamakawa et al. Yamakawa et al. disclose all of the elements recited in a device for microfluid analyses (Figs. 1a-2e) having a chamber having four admissions (112A, 114A, 116A, 118A) integrated in a substrate/base (120 or 122); a semipermeable membrane (110) arranged in the chamber subdividing it into two sectional chambers with admission by the membrane (as recited in claim 1); the two sectional chambers partially arranged in parallel to one another, in the same plane in parallel to the base surface of the substrate (as recited in claims 2-4 and 16); wherein the membrane is flexible (note: all materials are inherently flexible, i.e. capable of being deformed) (as recited in claim 5); and wherein substrate has a covering element/plate (120 or 122) (as recited in claims 21 and 22).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 15, 20 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2004/0053422 A1 to Chan et al. and Applicant's disclosed Prior Art. Chan et al. disclose a device for microfluid analyses with all of the elements recited above. Chan et al. further disclose that the permeable membrane (102) may have various pore sizes, for the purposes molecular sieving, metering, separation of analyte fluids/chemical/biological molecules, that the porous membrane may be manufactured such that its porosity is greatest along a selected/preferred

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direction, and that the pore sizes can be tuned/vary from a few nanometers to micrometers (para. 0018). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ any desired pore size, including the ranges recited in instant claim 15, thereby enabling the filtration, metering and separation of a targeted chemical or biological molecules (para. 0019). As to claims 20 and 33, Applicant disclosed that it is well known in the art to manufacture devices for microfluid analyses from bonded glass or plastics to form chambers and channels accessible to optical microscopy (page 1, para. 2), thus providing the motivation for one of ordinary skill in the art to employ any desired material suitable, thus meeting the limitations recited in claims 20 and 33. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ any suitable transparent/opaque material for various components of a device for microfluid analyses, including plastics, high-grade material with low autofluorescence (i.e. COC or COP) and/or non-transparent plastics, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960).

11. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2004/0053422 A1 to as applied to claim 1 above, and further in view of US 2002/0061260 A1 to Husar. Chan et al. disclose a device for microfluid analyses with all of the elements recited above. Chan et al. do not specifically disclose the functionalization of a surface (i.e. membrane and/or one chamber wall with a particular coating (as recited in claims 18 and 19). Husar discloses a device for fluid analyses wherein surface modification is employed in defined functional fields (i.e. to functionalize surfaces in an active/reactive or passive way) including

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amino groups, carboxyl groups, streptavidin, immobilized enzymes, oligos, hydrophilizing, hydrophobizing, electroplating, etc. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ any type of surface fictionalization for the membrane and/or chamber wall, thus allowing the specific control or targeting of desired molecules and/or biological elements that are under analyses.

Allowable Subject Matter

12. Claims 23-26, 28, 30 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is invited to review PTO form 892 accompanying this Office Action listing Prior Art relevant to the instant invention cited by the Examiner.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Fitzgerald whose telephone number is (571) 272-2843. The examiner can normally be reached on Monday-Friday from 7:00 AM to 3:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams, can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or

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Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/John Fitzgerald/
Examiner, Art Unit 2856
11/08/08